

What is claimed is:

1. A dedicated private network service method, comprising steps of:

(1) performing packet filtering if connected to a private network after a user drives a connector and connects to an internet data center(IDC) through a dial-up subscriber network;

(2) providing a private network IP address to the user by a PPP server if the user is authorized as an authentication server performs a user authentication; and

(3) forming a virtual tunnel to connect to a subscriber server system via connection procedures in a subscriber equipment existing in a private network.

2. The dedicated private network service method as claimed in claim 1, wherein private IP networks built in the internet data centers at plural places operate as one network by connecting the private IP networks built in the respective internet data centers by Giga lines.

3. The dedicated private network service method as claimed in claim 2, further comprising steps of:

(4) connecting the subscriber connected to an internet data center to a layer-4 switching hub equipment in case that the subscriber is authorized by performing a load balance of the subscriber in a communication equipment firstly connected through the private network, after the step(1); and

(5) performing the load balance of the subscriber server and the packet filtering after providing the private IP address to the user, after the step(2).

4. A dedicated private network service method, comprising steps

of:

(1) performing packet filtering if connected to a dedicated private network after a user connects to the internet and then inputs a domain name in an URL input window of a web browser;

5 (2) performing a user authentication in a user authentication server;

(3) performing a secondary packet filtering by selecting a service port by company if the user is authorized as a result of the user authentication performance at the step(2); and

10 (4) allowing, if the user is an authorized subscriber, the subscriber to use a private network service by providing a different private IP address by company, separating from a public IP address, and connecting to a server by company, after performing the secondary packet filtering at the step(3).

15 5. The dedicated private network service method as claimed in claim 1, wherein the step for connecting to the internet in the step(1) is any of a step for connecting to the internet with a dynamic IP address allocated from a telecommunication company by requesting an internet connection on the way of using a service provided by the telecommunication company after the connection to the telecommunication company with use of a dedicated emulator by the user, a step for connecting to the internet by using a dedicated network, and a step for connecting to the internet with use of the ADSL/CATV.

20 25 6. The dedicated private network service method as claimed in claim 4, wherein private IP networks built in the internet data centers at plural places operate as one network by connecting the private IP networks built in the respective internet data centers by

Giga lines.

7. The dedicated private network service method as claimed in claim 5, wherein private IP networks built in the internet data centers at plural places operate as one network by connecting the private IP networks built in the respective internet data centers by Giga lines.

8. The dedicated private network service method as claimed in claim 6, further comprising steps of:

(5) connecting the subscriber connected to an internet data center to a layer-4 switching hub equipment in case that the subscriber is authorized by performing a load balance of the subscriber in a communication equipment firstly connected through the private network, after the step(1); and

(6) performing the load balance of the subscriber server after the step(3).

9. The dedicated private network service method as claimed in claim 7, further comprising steps of:

(5) connecting the subscriber connected to an internet data center to a layer-4 switching hub equipment in case that the subscriber is authorized by performing a load balance of the subscriber in a communication equipment firstly connected through the private network, after the step(1); and

(6) performing the load balance of the subscriber server after the step(3).

10. A dedicated private network service method having GLB and load-balancing functions, in a dedicated private network, comprising steps of:

(1) performing a bypass connection to an IDC normally operated

upon a failure of a specific IDC by connecting a user by IDC center in a public IP network by a GLB server upon a user's connection;

(2) changing a public IP address to a private IP address upon a connection to the dedicated private network;

5 (3) load-balancing traffic to plural IDC centers after interactively connecting the respective IDC centers by constructing a ring-shape network with the IDC centers of private IP networks connected by Giga lines; and

(4) performing the load balancing of servers by identifying server states at SLB servers in the respective IDC centers.

10 11. The dedicated private network service method as claimed in claim 10, wherein the step for using the GLB server upon the connection of the step(1) includes steps of:

(2-1) identifying if failures to a public network of the IDC centers occur;

(2-2) identifying a bypass path automatically upon a specific IDC' failure as a result of the step(2-1); and

(2-3) performing a connection to a normal IDC center by the GLB server in case that the bypass path is normal as a result of the step(2-2).

20 12. The dedicated private network service method as claimed in claim 10, wherein the interactive connection of the IDC centers in the step(3) is constructed with switching equipment.

25 13. The dedicated private network service method as claimed in claim 10, wherein the step(3) for load-balancing the traffic includes steps of:

(3-1) identifying if failures to the interactively connected lines occur by operating the IDC centers in identical networks;

(3-2) identifying a bypass path automatically upon failures to part of the networks as a result of the identification in the step(3-1);

5 (3-3) load-balancing the traffic to other IDC centers in case that the bypass path is normal as a result of the identification in the step(3-2);

(3-4) operating the IDC centers individually in case that the bypass path is abnormal as a result of the identification in the step(3-2); and

10 (3-5) load-balancing the traffic to the private networks through the Giga lines interactively connected by IDC center in plural places in case that the private networks have no failure and are normal as a result of the identification in the step(3-1).

15 14. The dedicated private network service method as claimed in claim 11, wherein the step for load-balancing the traffic in the step(3) includes steps of:

(3-1) identifying if failures to the networks by IDC center operating in public networks;

20 (3-2) identifying a bypass path automatically upon failures to part of the networks as a result of the identification in the step(3-1);

(3-3) load-balancing the traffic to other IDC centers in case that the bypass path is normal as a result of the identification in the step(3-2);

25 (3-4) operating the IDC centers individually in case that the bypass path is abnormal as a result of the identification in the step(3-2); and

(3-5) load-balancing the traffic occurring in the respective IDC

centers through connections by IDC center in plural places in case that the public networks have no failure and are normal as a result of the identification in the step(3-1).

15. The dedicated private network service method as claimed in
5 claim 12, wherein the step(3) for load-balancing the traffic includes steps of:

(3-1) identifying if failures to the interactively connected lines occur by operating the IDC centers in identical networks;

(3-2) identifying a bypass path automatically upon failures to
10 part of the networks as a result of the identification in the step(3-1);

(3-3) load-balancing the traffic to other IDC centers in case that the bypass path is normal as a result of the identification in the step(3-2);

(3-4) operating the IDC centers individually in case that the bypass path is abnormal as a result of the identification in the step(3-2); and

(3-5) load-balancing the traffic to the private networks through the Giga lines interactively connected by IDC center in plural places
20 in case that the private networks have no failure and are normal as a result of the identification in the step(3-1).

16. The dedicated private network service method as claimed in claim 10, wherein the step(4) includes steps of:

(4-1) identifying the respective server states at the SLB
25 servers in the respective IDC centers;

(4-2) identifying normal servers in case that failures occur to part of servers as a result of the identification in the step(4-1);

(4-3) performing the load-balancing only to normal servers while

preventing connections to abnormal servers as a result of the identification in the step(4-2); and

(4-4) performing the load-balancing to all the servers in case that all the operating servers are normal as a result of the identification in the step(4-1).

17. The dedicated private network service method as claimed in claim 11, wherein the step(4) includes steps of:

(4-1) identifying the respective server states at the SLB servers in the respective IDC centers;

(4-2) identifying normal servers in case that failures occur to part of servers as a result of the identification in the step(4-1);

(4-3) performing the load-balancing only to normal servers while preventing connections to abnormal servers as a result of the identification in the step(4-2); and

(4-4) performing the load-balancing to all the servers in case that all the operating servers are normal as a result of the identification in the step(4-1).

18. The dedicated private network service method as claimed in claim 12, wherein the step(4) includes steps of:

(4-1) identifying the respective server states at the SLB servers in the respective IDC centers;

(4-2) identifying normal servers in case that failures occur to part of servers as a result of the identification in the step(4-1);

(4-3) performing the load-balancing only to normal servers while preventing connections to abnormal servers as a result of the identification in the step(4-2); and

(4-4) performing the load-balancing to all the servers in case that all the operating servers are normal as a result of the

identification in the step(4-1).

19. The dedicated private network service method as claimed in claim 13, wherein the step(4) includes steps of:

(4-1) identifying the respective server states at the SLB servers in the respective IDC centers;

(4-2) identifying normal servers in case that failures occur to part of servers as a result of the identification in the step(4-1);

(4-3) performing the load-balancing only to normal servers while preventing connections to abnormal servers as a result of the identification in the step(4-2); and

(4-4) performing the load-balancing to all the servers in case that all the operating servers are normal as a result of the identification in the step(4-1).

20. The dedicated private network service method as claimed in claim 14, wherein the step(4) includes steps of:

(4-1) identifying the respective server states at the SLB servers in the respective IDC centers;

(4-2) identifying normal servers in case that failures occur to part of servers as a result of the identification in the step(4-1);

(4-3) performing the load-balancing only to normal servers while preventing connections to abnormal servers as a result of the identification in the step(4-2); and

(4-4) performing the load-balancing to all the servers in case that all the operating servers are normal as a result of the identification in the step(4-1).

21. The dedicated private network service method as claimed in claim 15, wherein the step(4) includes steps of:

(4-1) identifying the respective server states at the SLB

servers in the respective IDC centers;

(4-2) identifying normal servers in case that failures occur to part of servers as a result of the identification in the step(4-1);

(4-3) performing the load-balancing only to normal servers while preventing connections to abnormal servers as a result of the identification in the step(4-2); and

(4-4) performing the load-balancing to all the servers in case that all the operating servers are normal as a result of the identification in the step(4-1).

10 22. The dedicated private network service method as claimed in claim 10, further comprising a step of (5) changing into spare interface equipment automatically upon failures to network interfaces operating in the system.

11 23. The dedicated private network service method as claimed in claim 22, wherein the step(5) includes steps of:

(5-1) driving the system operating for services, driving a process related to failure recoveries, and identifying whether the process is normally driven;

20 (5-2) driving the process once again in case of not driven normally as a result of the identification;

(5-3) performing ping checks as to a network gateway in operation, and identifying whether the operating gateway normally responses, if the process is normally driven as a result of the identification;

25 (5-4) continuing the operation since it can be judged that no problems occur to the networks in case of normal response;

(5-5) automatically shutting down operational network interface cards of the systems in failures in case of abnormal response as a

result of the identification;

(5-6) automatically turning on spare network interface cards constructed for spares in the systems, and setting IP addresses related to services;

5 (5-7) performing ping checks as to a gateway for the corresponding networks in which the interface cards turn on, and identifying whether the gateway as to the spare network interface card normally operates; and

10 (5-8) executing normal services based on static routing table driven in case of normal as a result of the check, and executing the services after checking gateway equipment in case of abnormal.